

FIGURE 1 (PRIOR ART)

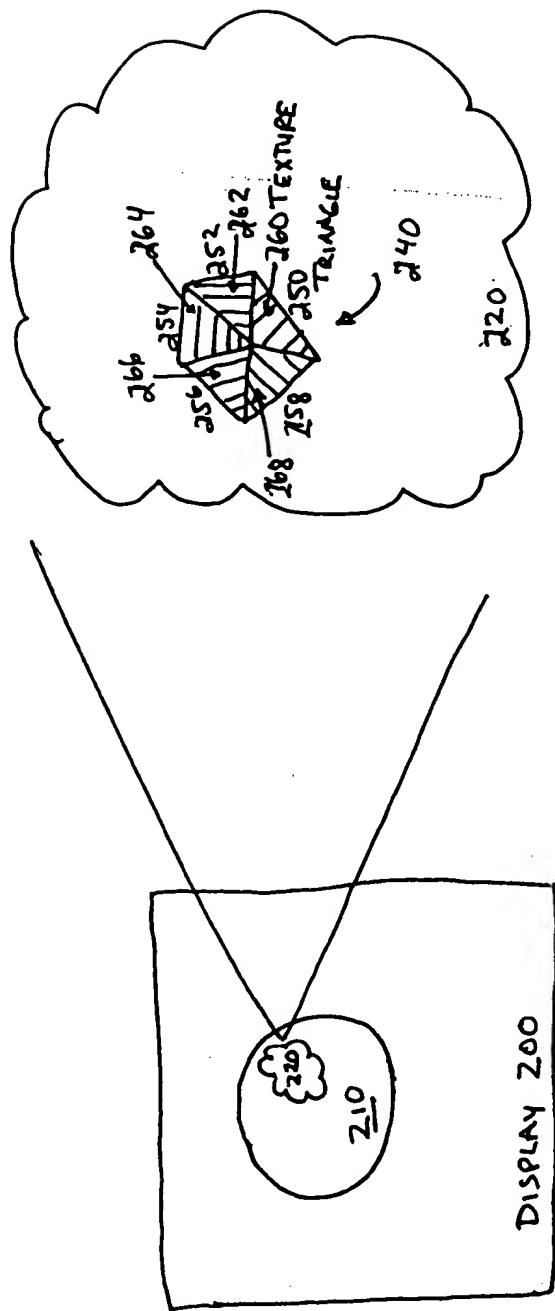
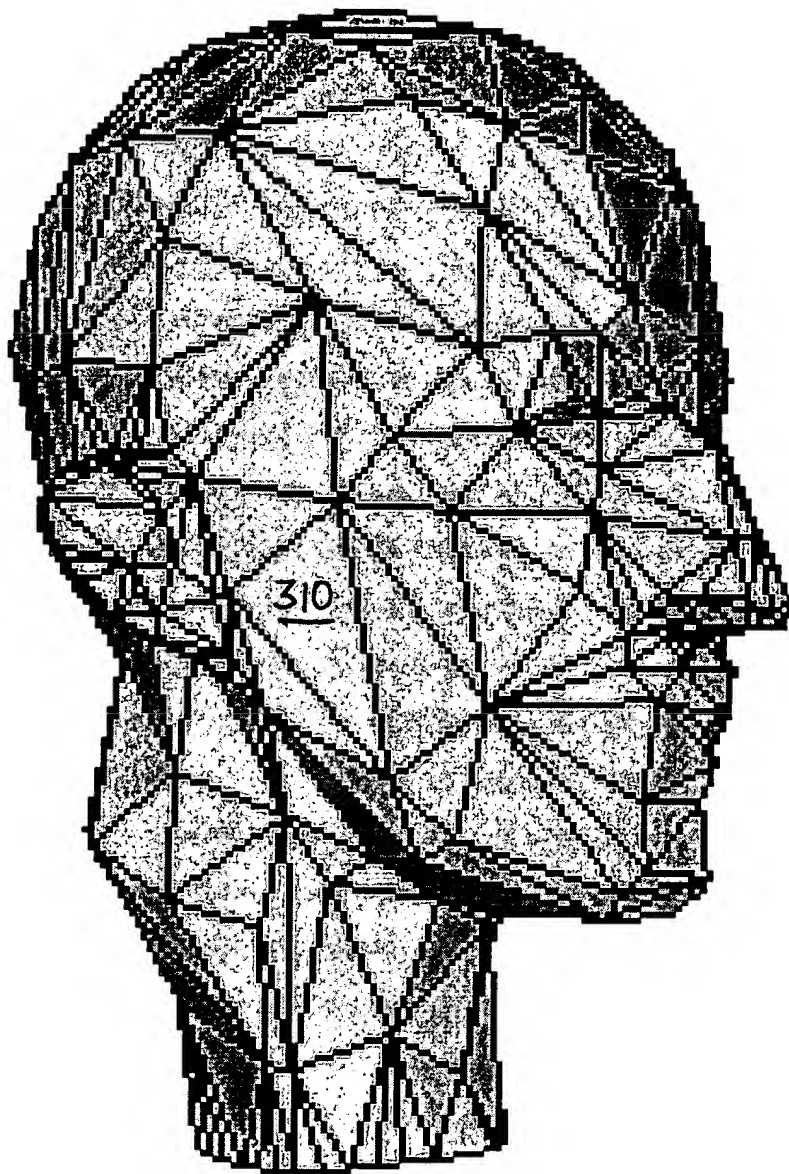


FIGURE 2 (PRIOR ART)



300

310

FIGURE 3 (PRIOR ART)

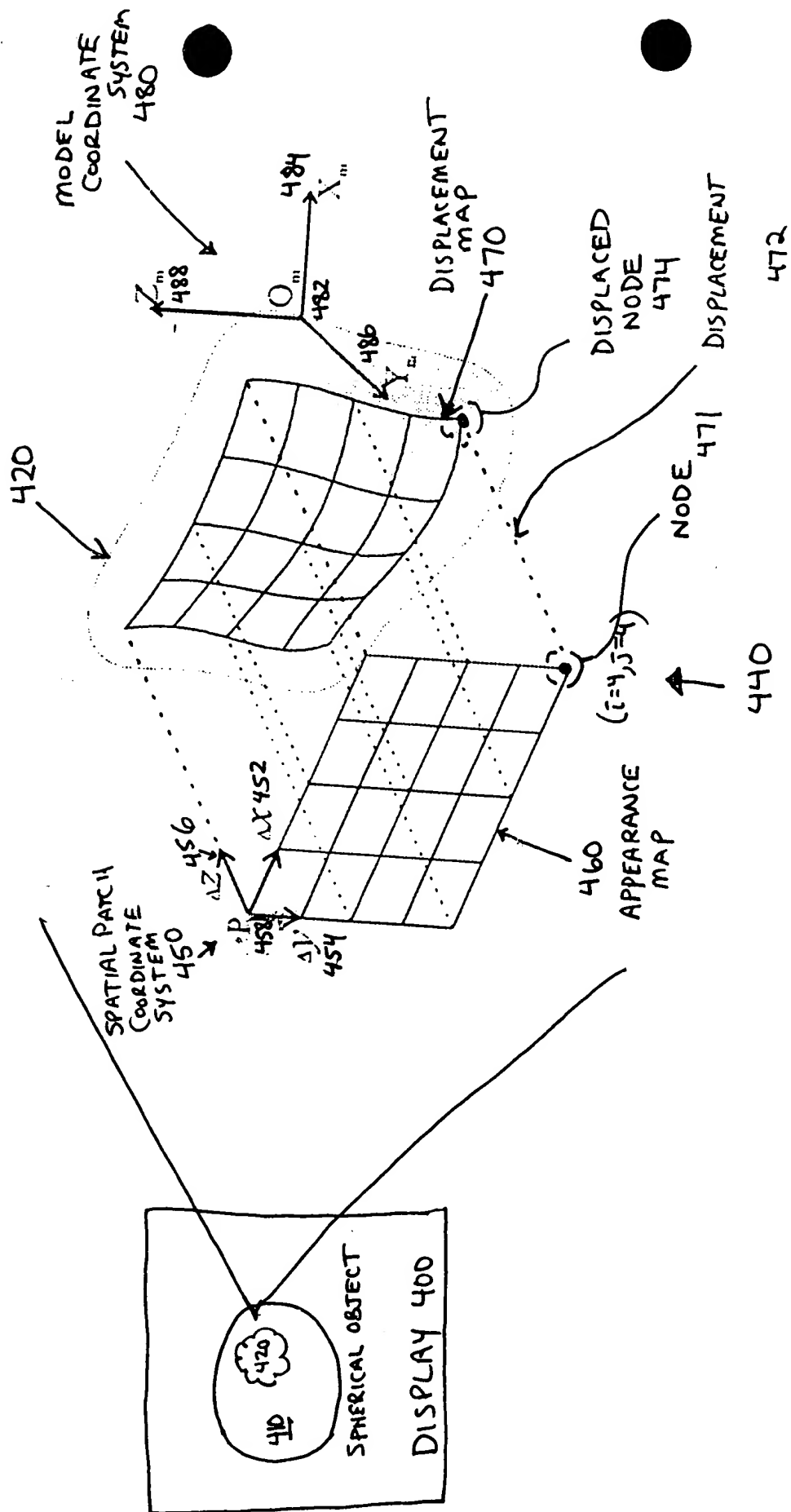


FIGURE 4

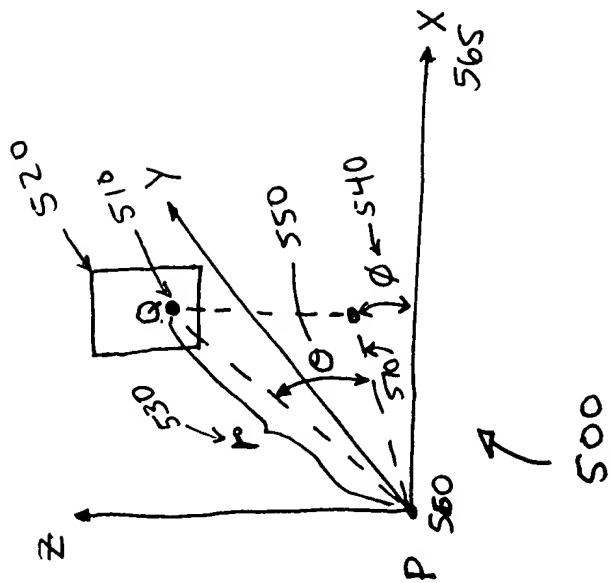


FIGURE 5

FIGURE 6

FIG. 7 is a block diagram of a system 700 for rendering a spatial patch. The system 700 includes a memory 720, a spatial patch rendering unit 740, and a presentation device 760. The memory 720 is connected to the spatial patch rendering unit 740, and the spatial patch rendering unit 740 is connected to the presentation device 760. The presentation device 760 includes a spatial patch 770 and graphics 765.

700

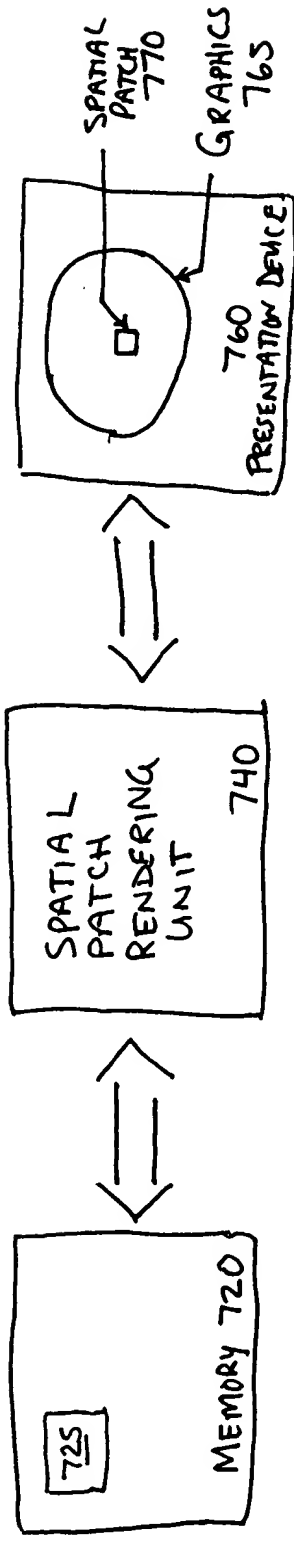


FIGURE 7

800

800

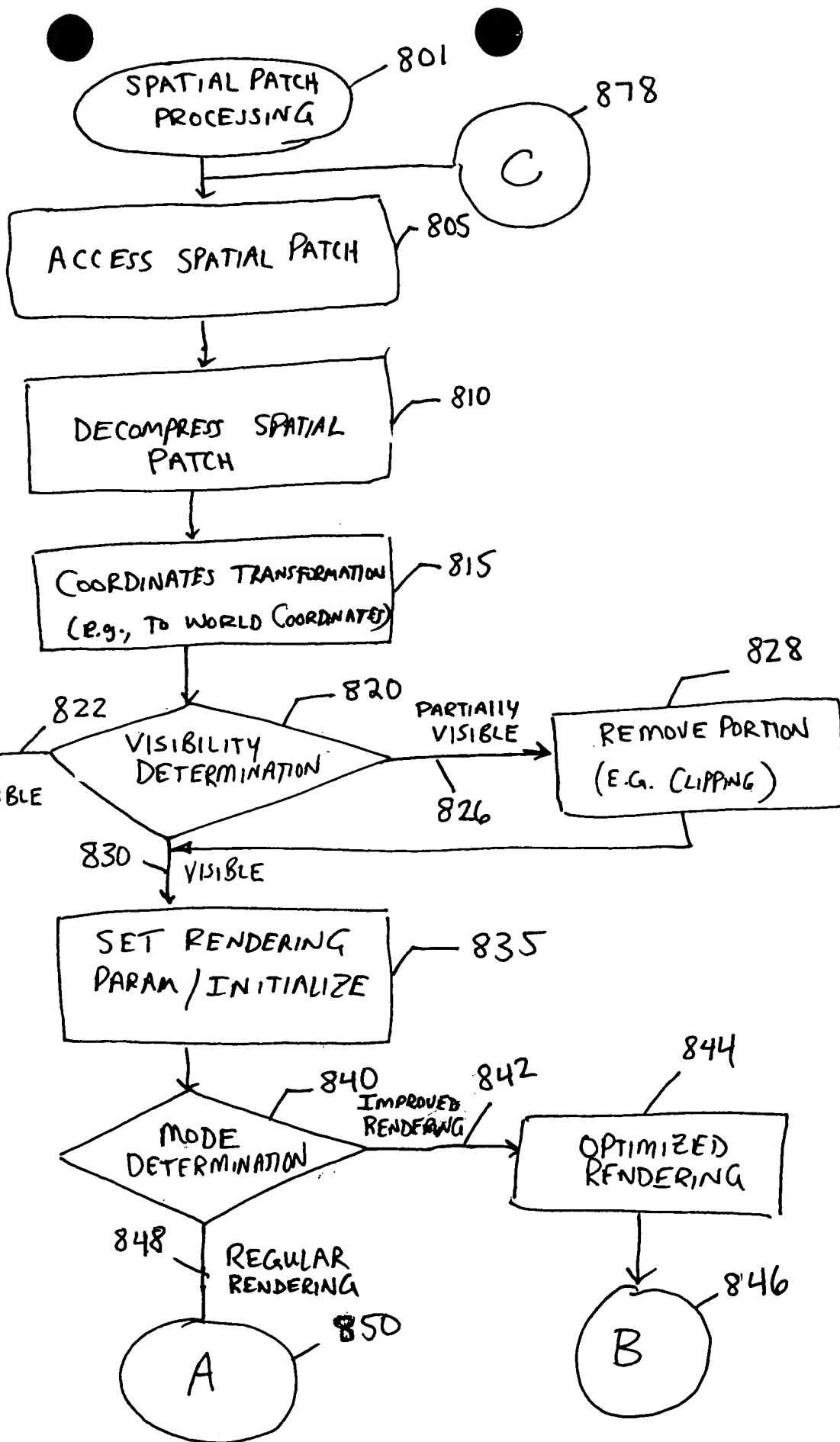


FIGURE 8A



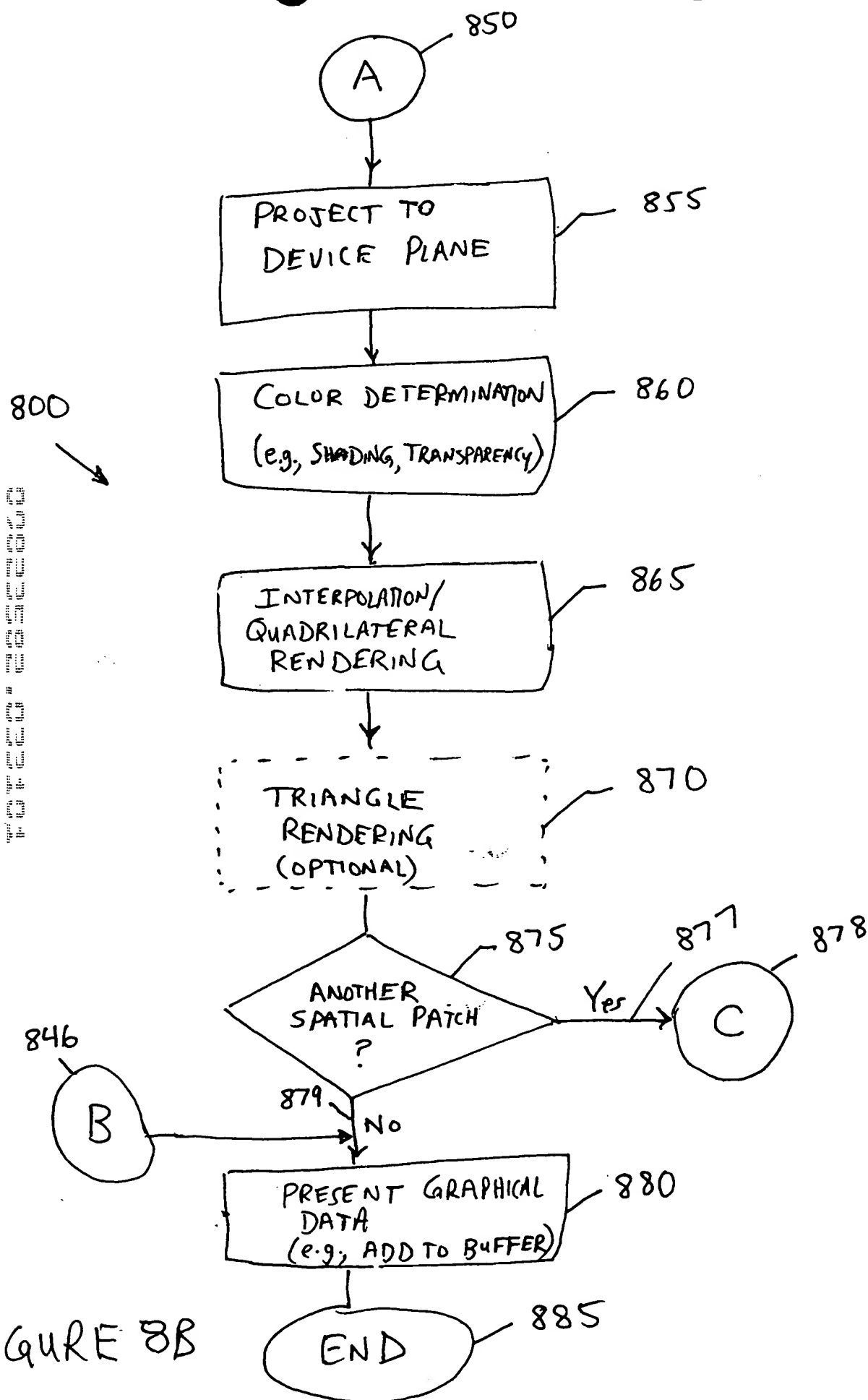


FIGURE 8B

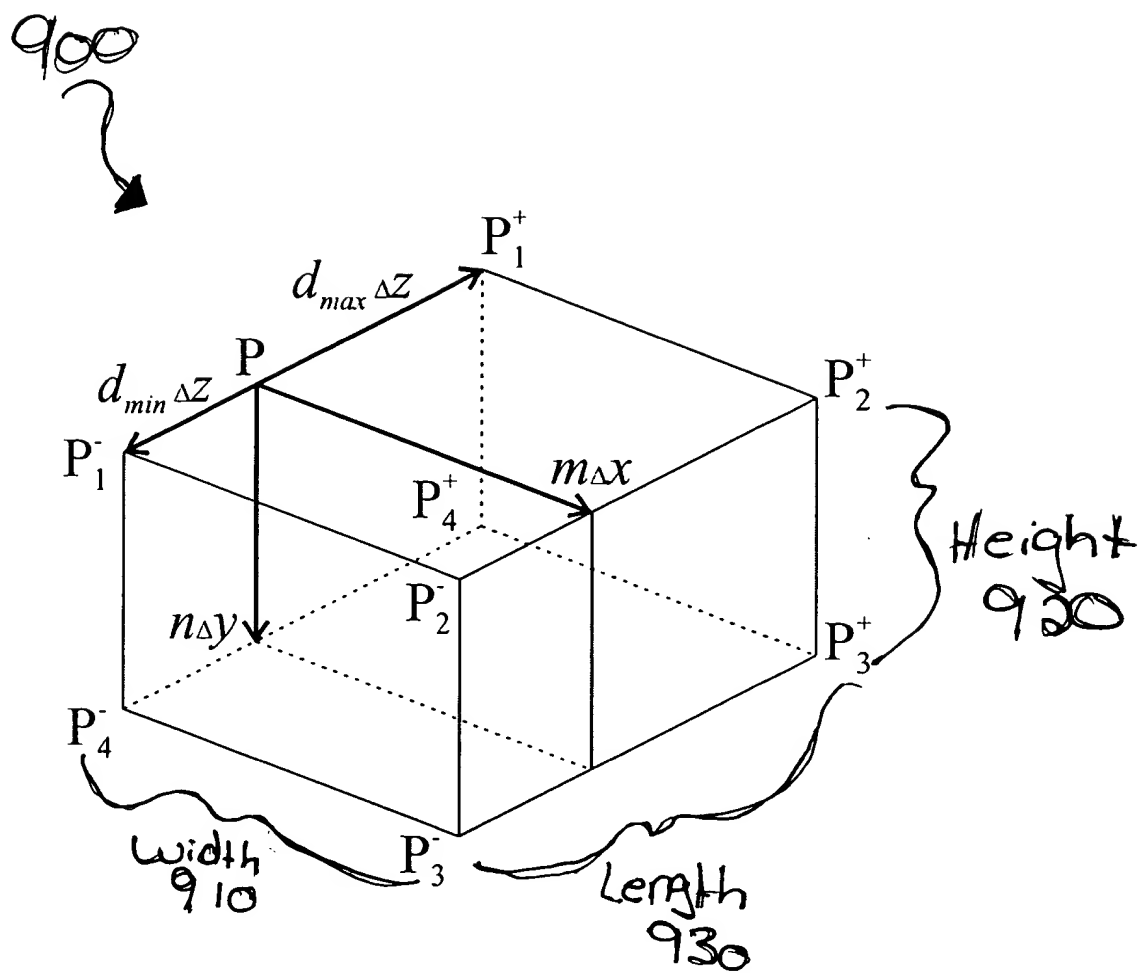
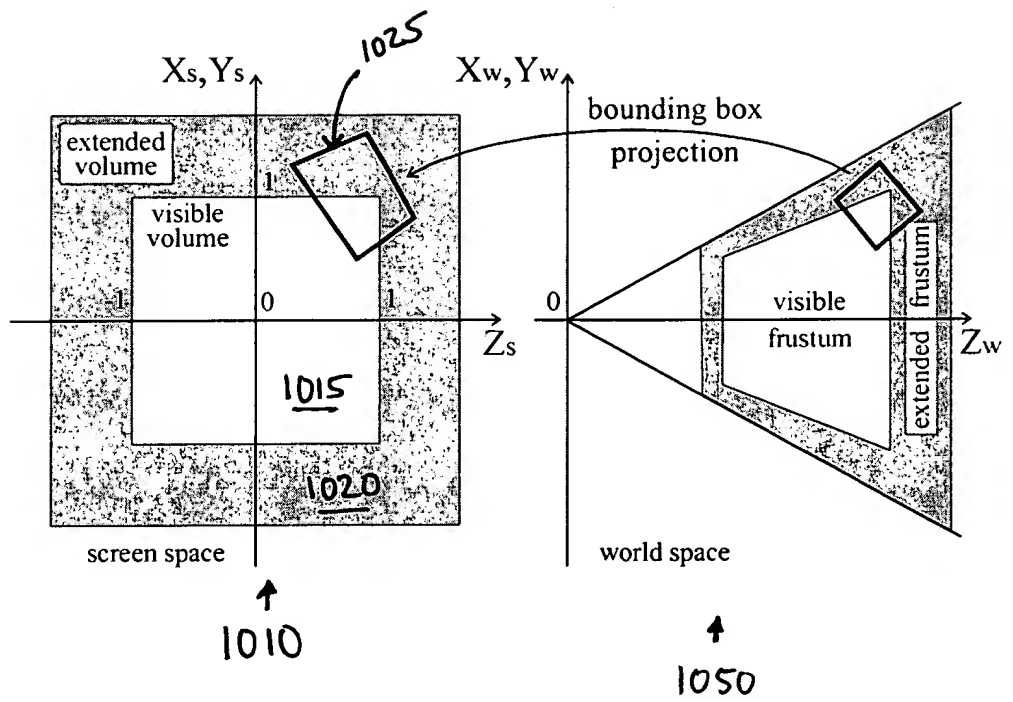


Figure 9



**Figure 10**

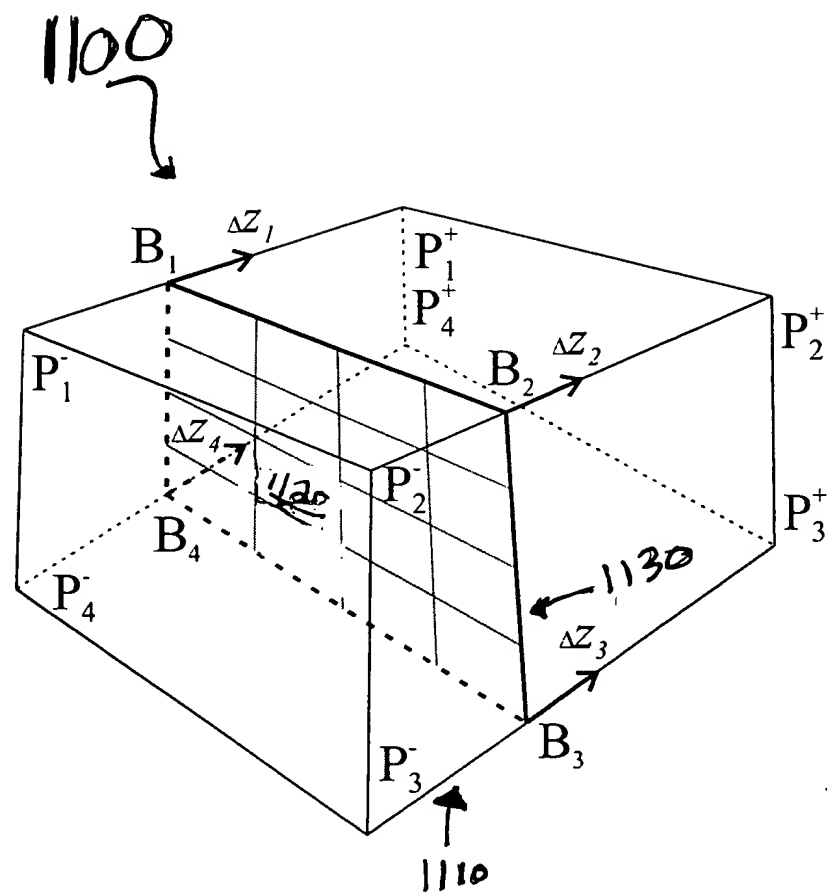
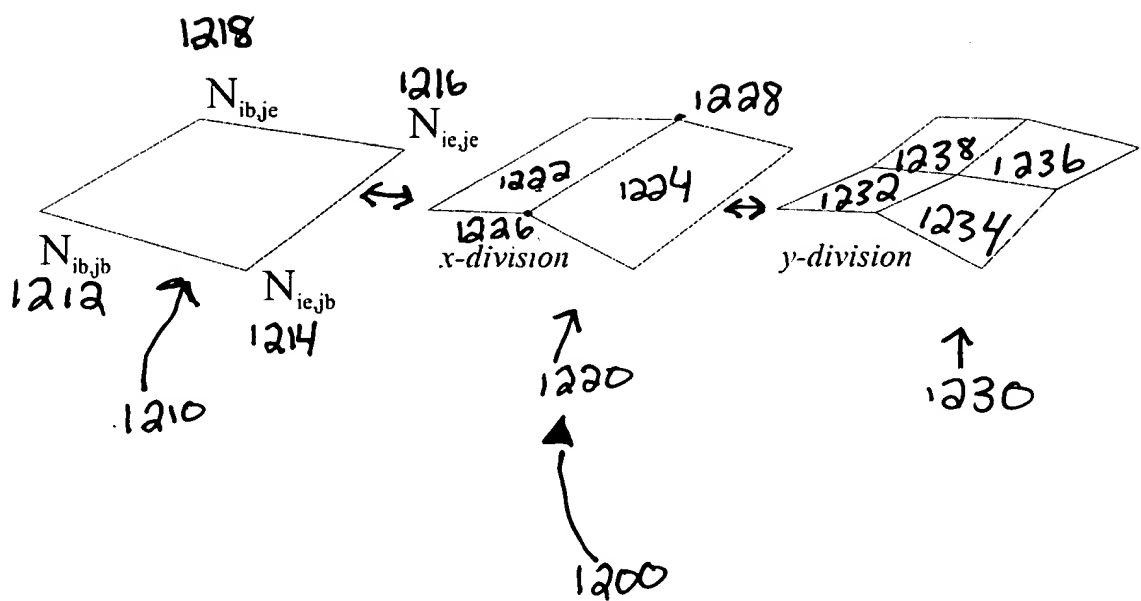


Figure 11



**Figure 12**

Figure 13 is a schematic diagram of a grid structure. The grid is composed of 12 columns and 2 rows. The columns are labeled 'a' through 'd' at the bottom. The rows are labeled '1' and '2' on the left. The grid is divided into four quadrants by a vertical line between columns 'c' and 'd' and a horizontal line between rows '1' and '2'. The quadrants are labeled '1312', '1311', '1314', and '1313' in the top row, and '1317', '1318', '1315', and '1316' in the bottom row. The grid is further divided into four quadrants by a vertical line between columns 'c' and 'd' and a horizontal line between rows '1' and '2'. The quadrants are labeled '1312', '1311', '1314', and '1313' in the top row, and '1317', '1318', '1315', and '1316' in the bottom row. The grid is further divided into four quadrants by a vertical line between columns 'c' and 'd' and a horizontal line between rows '1' and '2'. The quadrants are labeled '1312', '1311', '1314', and '1313' in the top row, and '1317', '1318', '1315', and '1316' in the bottom row.

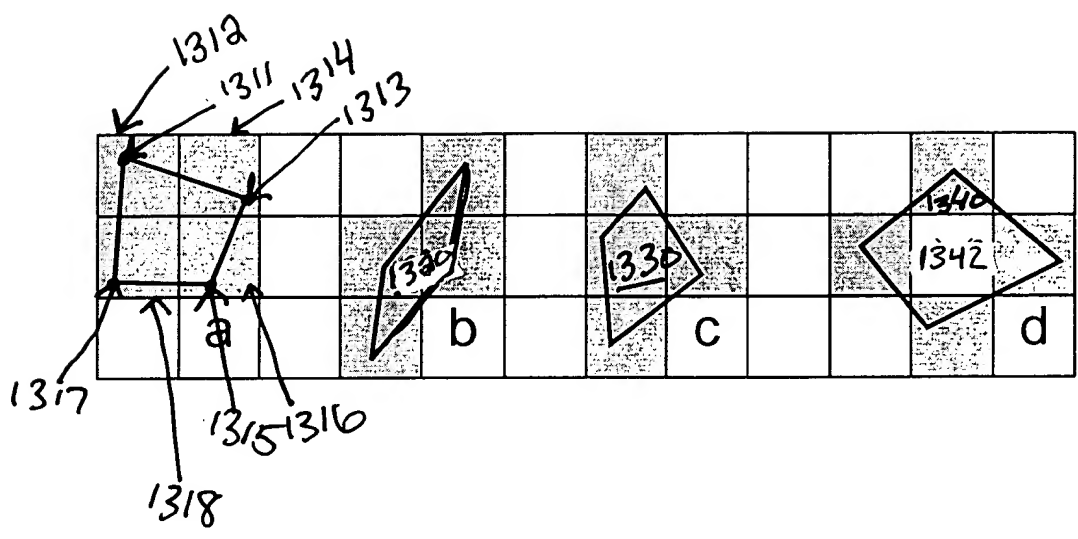


Figure 13

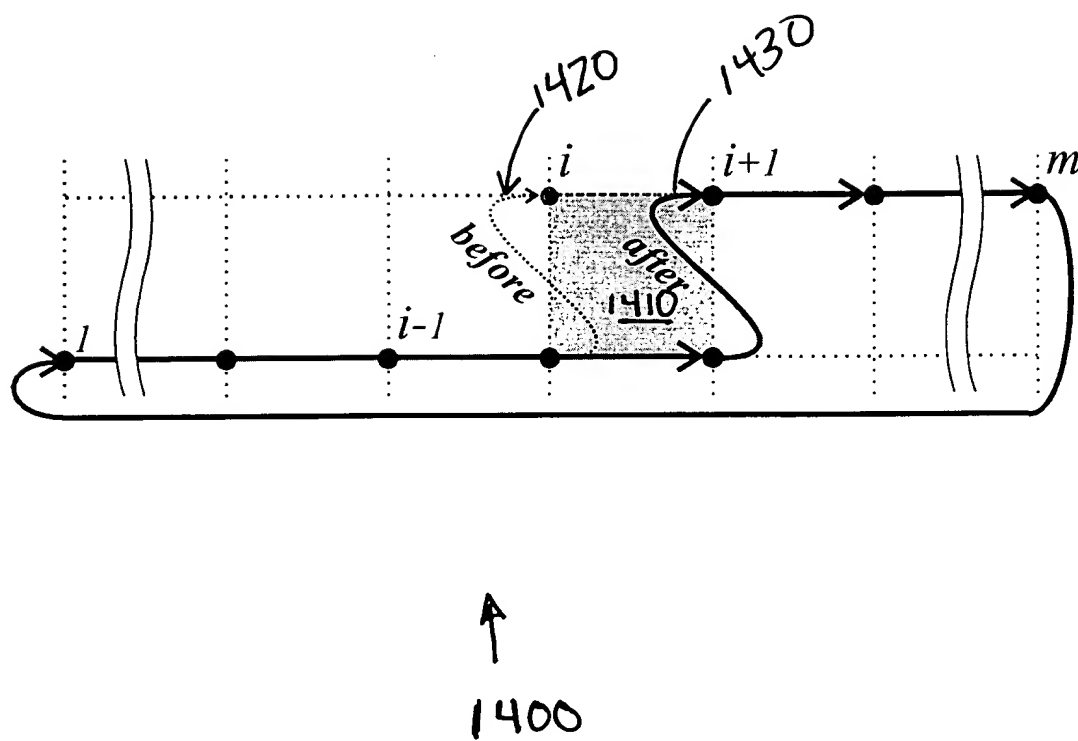


Figure 14

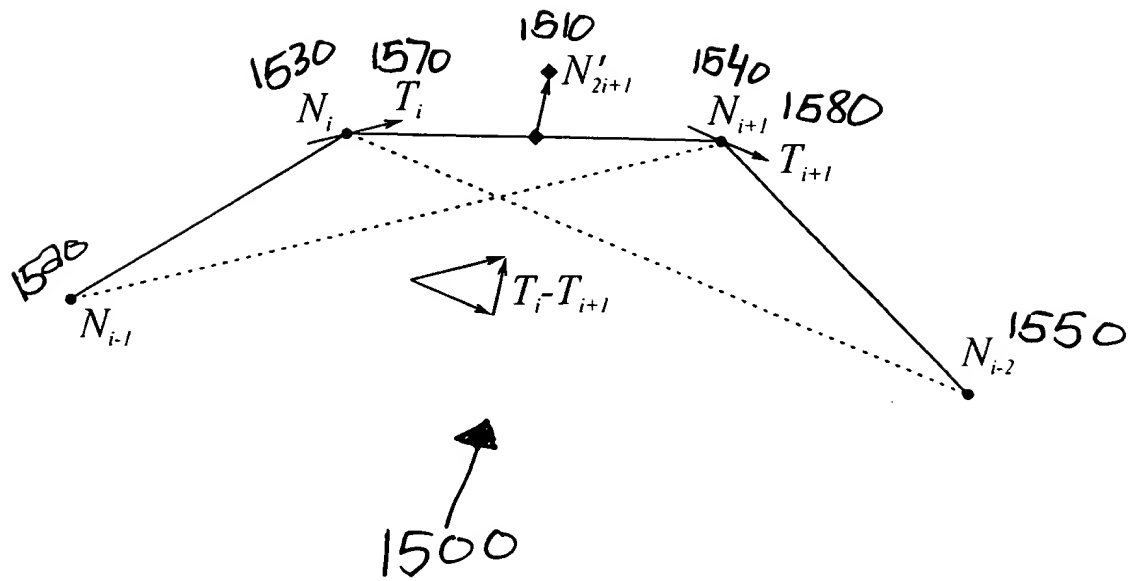


Figure 15



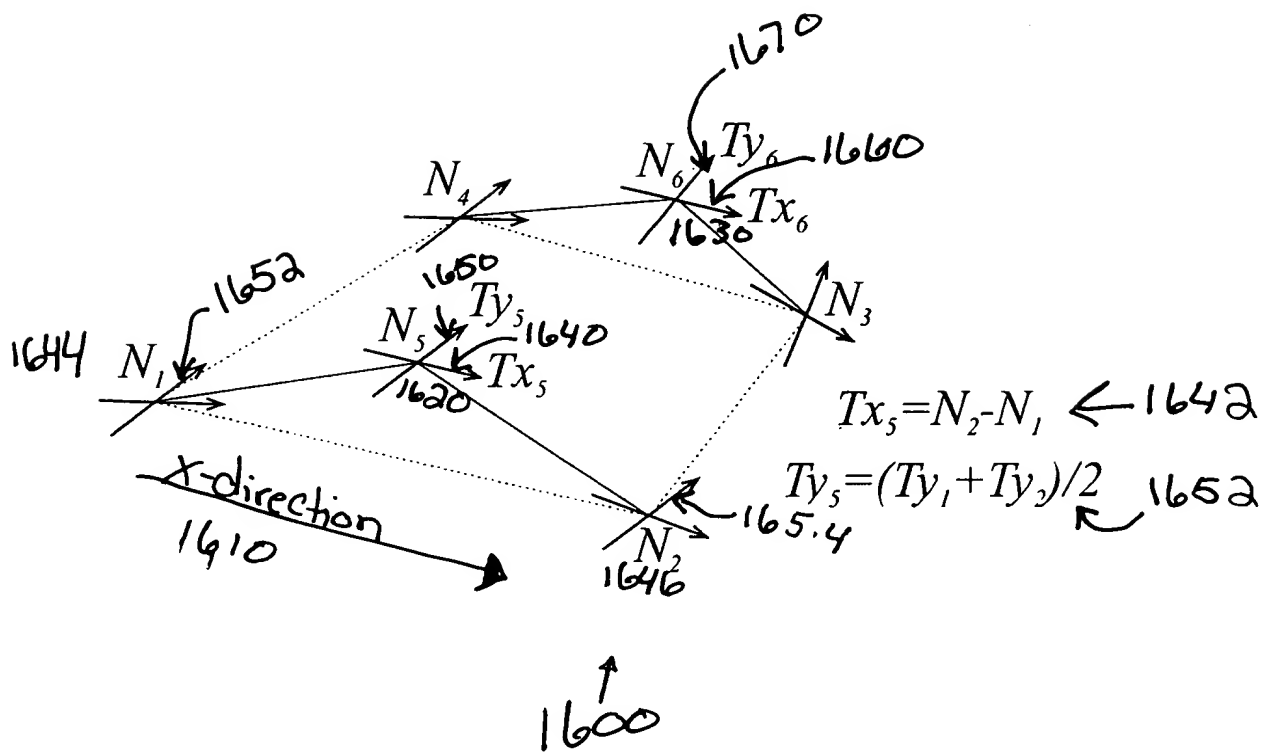


Figure 16

Figure 17 is a diagram illustrating a perspective projection transformation from world space to model space. The diagram shows a viewing frustum in world space, defined by a near plane at  $Z_{near}$  and a far plane at  $Z_{far}$ . A box is located between these planes, with its back face at  $Z_{box}$ . The box's dimensions are given as 175 (width) and 172.5 (height). The distance from the origin to the back face is 1740, and the distance to the front face is 1746. The angle of the frustum is  $\pi$ . The box is projected onto the near plane, and the resulting image is shown in model space. The image is a rectangle with a diagonal labeled  $diag_{max}$  and a length of 1765. The scaling factor is given as  $S_{max} = 760$ . The world space origin is labeled 1735, and the model space origin is labeled 1750. The diagram also shows a vertical axis labeled 1745 and a horizontal axis labeled 1710.

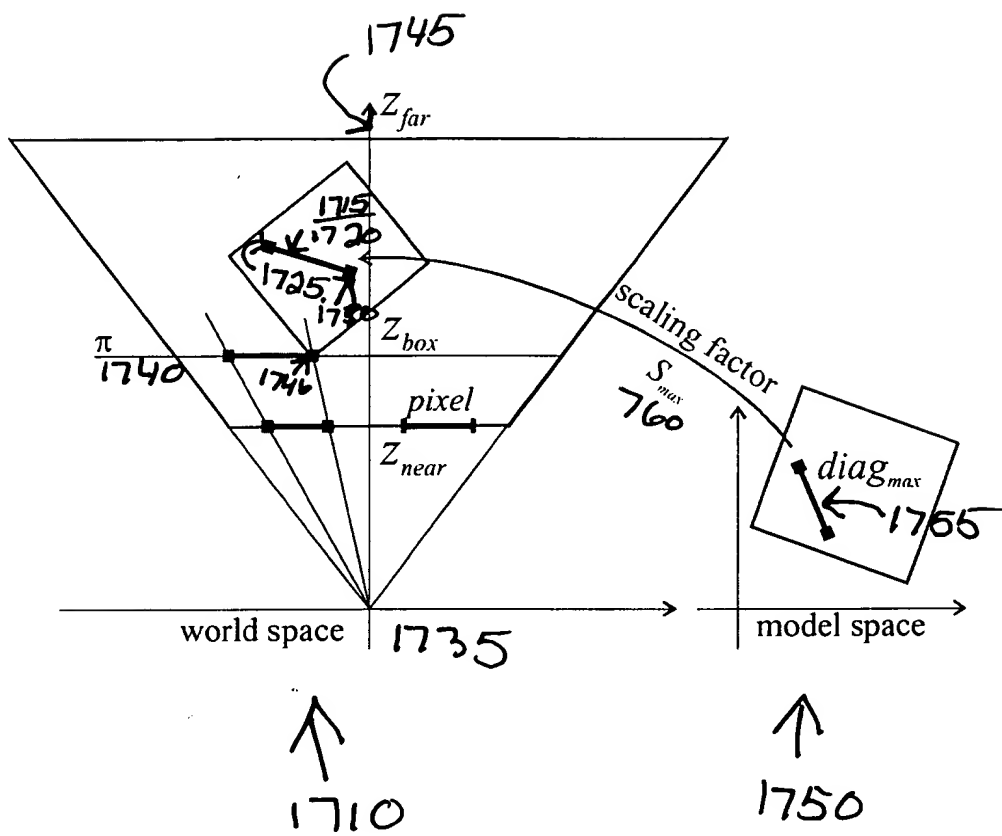


Figure 17

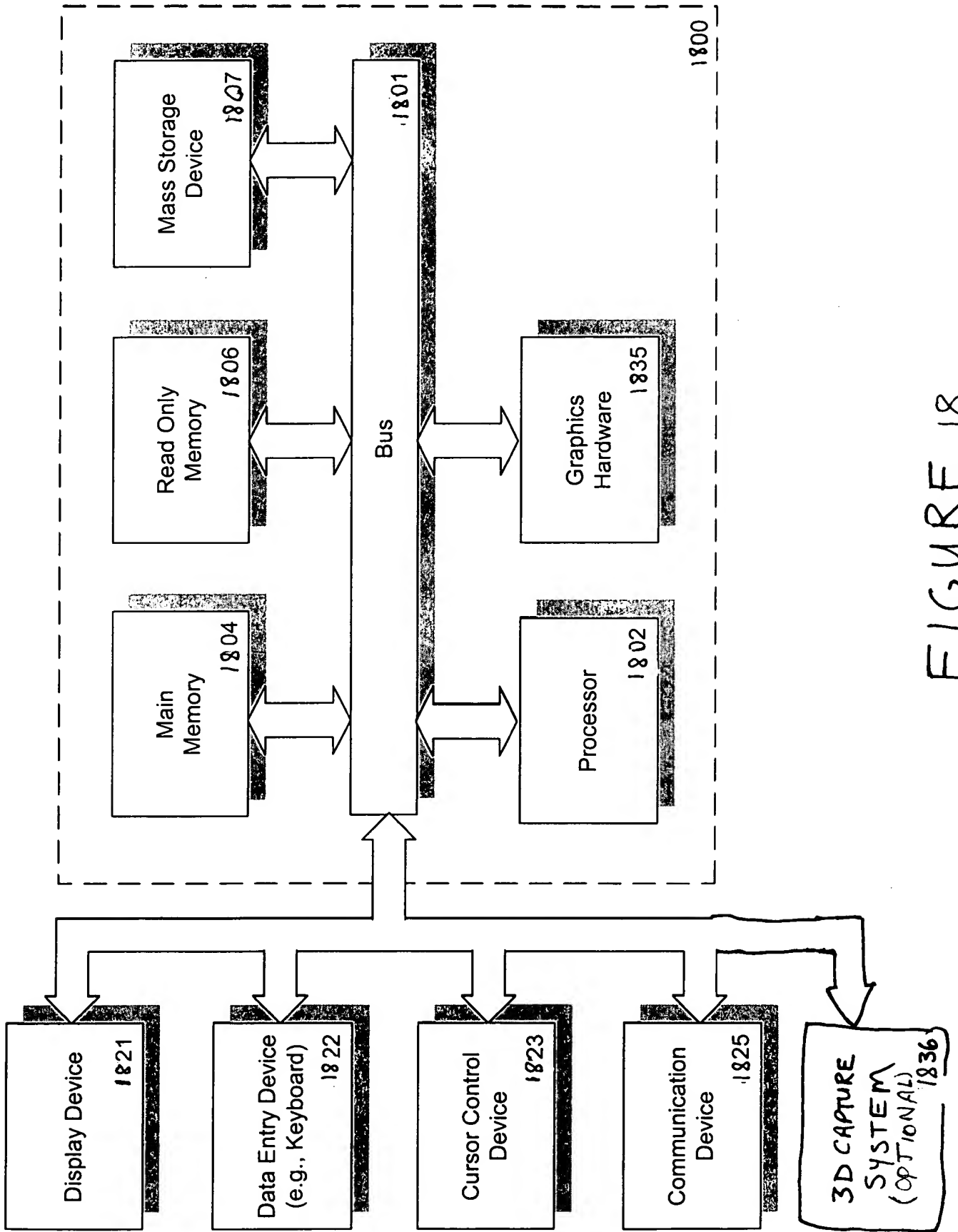


FIGURE 18